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# (1)



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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/021,403A

DATE: 07/30/2002

TIME: 14:49:52

Input Set : A:\EP.txt

Output Set: N:\CRF3\07302002\J021403A.raw

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3 <110> APPLICANT: Advisys
5 <120> TITLE OF INVENTION: Administration of Nucleic Acid Sequence to Female Animal to
Enhance
6   Growth in Offspring
8 <130> FILE REFERENCE: HO-P02021US1/100021476/OTA 00-91
10 <140> CURRENT APPLICATION NUMBER: 10/021,403A
11 <141> CURRENT FILING DATE: 2002-04-11
13 <150> PRIOR APPLICATION NUMBER: 60/255,021
14 <151> PRIOR FILING DATE: 2000-12-12
16 <160> NUMBER OF SEQ ID NOS: 11
18 <170> SOFTWARE: PatentIn version 3.1
20 <210> SEQ ID NO: 1
21 <211> LENGTH: 40
22 <212> TYPE: PRT
23 <213> ORGANISM: artificial sequence
25 <220> FEATURE:
26 <223> OTHER INFORMATION: This amino acid sequence is an synthetic analog of "growth
hormon
27   e releasing hormone" ("GHRH").
29 <400> SEQUENCE: 1
31 Tyr Ala Asn Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Gly Gln
32 1      5      10      15
35 Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Met Ser Arg Gln Gln Gly
36      20      25      30
39 Glu Arg Asn Gln Glu Asn Gly Ala
40      35      40
43 <210> SEQ ID NO: 2
44 <211> LENGTH: 48
45 <212> TYPE: DNA
46 <213> ORGANISM: artificial sequence
48 <220> FEATURE:
49 <223> OTHER INFORMATION: This is a primer used for site directed mutagenesis of growth
hor
50   mone releasing hormone ("GHRH")
52 <400> SEQUENCE: 2
53 aggcagcagg gagagaggaa ccaagagcaa ggagcataat gactgcag
56 <210> SEQ ID NO: 3
57 <211> LENGTH: 42
58 <212> TYPE: DNA
59 <213> ORGANISM: artificial sequence
61 <220> FEATURE:
62 <223> OTHER INFORMATION: This is a primer used for site directed mutagenesis of growth
hor
63   mone releasing hormone ("GHRH")

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65 <400> SEQUENCE: 3  
66 accctcagga tgcggcggca cgtagatgcc atcttcacca ac  
69 <210> SEQ ID NO: 4

42

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70 <211> LENGTH: 27  
 71 <212> TYPE: DNA  
 72 <213> ORGANISM: artificial sequence  
 74 <220> FEATURE:  
 75 <223> OTHER INFORMATION: This is a primer used for site directed mutagenesis of growth

hor

76 mone releasing hormone ("GHRH")  
 78 <400> SEQUENCE: 4  
 79 cggaaggtgc tggccagct gtccgcc 27  
 82 <210> SEQ ID NO: 5  
 83 <211> LENGTH: 36  
 84 <212> TYPE: DNA  
 85 <213> ORGANISM: artificial sequence  
 87 <220> FEATURE:  
 88 <223> OTHER INFORMATION: This is a primer used for site directed mutagenesis of growth

hor

89 mone releasing hormone ("GHRH")  
 91 <400> SEQUENCE: 5  
 92 ctgctccagg acatcctgaa caggcagcag ggagag 36  
 95 <210> SEQ ID NO: 6  
 96 <211> LENGTH: 358  
 97 <212> TYPE: DNA  
 98 <213> ORGANISM: artificial sequence  
 100 <220> FEATURE:  
 101 <223> OTHER INFORMATION: This is a synthetic promoter, termed SPC5-12.  
 103 <400> SEQUENCE: 6  
 104 gagctccacc gcggtggcgg ccgtccgccc tcggcaccat cctcacgaca cccaaatatg 60  
 106 ggcacgggtg aggaatggtg gggagttatt ttagagcgg tgaggaaggt gggcaggcag 120  
 108 cagggtgttg cgctctaaaa ataactcccc ggagttattt ttagagcggg ggaatggttg 180  
 110 acacccaaat atggcgacgg ttcctcacc gtcgccatat ttgggtgtcc gccctcggcc 240  
 112 gggccgcgat tcttgggggc cggcggtg gc tccgcccc ctcgataaaa ggctccgggg 300  
 114 ccggcgggcg cccacgagct acccgaggga gcgggaggcg ccaagctcta gaactagt 358  
 117 <210> SEQ ID NO: 7  
 118 <211> LENGTH: 623  
 119 <212> TYPE: DNA  
 120 <213> ORGANISM: artificial sequence  
 122 <220> FEATURE:  
 123 <223> OTHER INFORMATION: This is a human growth hormone ("hGH") 3' untranslated

region.

125 <400> SEQUENCE: 7  
 126 ggggtgcatc cctgtgacct ctccccagtg cctctcctgg ccttgaagt tgccactcca 60  
 128 gtgcccacca gccttgctct aataaaatta agttgcatca ttttgtctga ctagggtgtcc 120  
 130 ttctataata ttatgggggtg gaggggggtg gtatggagca aggggcaagt tgggaagaca 180  
 132 acctgtaggg cctgcgggggt ctattgggaa ccaagctgga gtgcagtggc acaatcttgg 240  
 134 ctactgcaa tctccgcctc ctgggttcaa gcgattctcc tgcctcagcc tcccaggttg 300  
 136 ttgggattcc aggcattgcat gaccaggctc agctaatttt tgtttttttg gtagagacgg 360  
 138 ggttttccca tattggccag gctggtctcc aactcctaatt ctacaggtgat ctaccacct 420  
 140 tggcctccca aattgctggg attacaggcg tgaacctctg ctcccttccc tgtccttctg 480  
 142 atttttaaat aactatacca gcaggaggac gtccagacac agcataggct acctggccat 540  
 144 gcccaaccgg tgggacattt gagttgcttg cttggcactg tctctctatg cgttgggtcc 600  
 146 actcagtaga tgctgttga att 623  
 149 <210> SEQ ID NO: 8

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150 <211> LENGTH: 40  
 151 <212> TYPE: PRT  
 152 <213> ORGANISM: artificial sequence  
 154 <220> FEATURE:  
 155 <223> OTHER INFORMATION: This amino acid sequence is an synthetic analog of "growth  
 hormon  
 156 e releasing hormone" ("GHRH").  
 158 <400> SEQUENCE: 8  
 160 His Val Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Ala Gln  
 161 1 5 10 15  
 164 Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Leu Asn Arg Gln Gln Gly  
 165 20 25 30  
 168 Glu Arg Asn Gln Glu Gln Gly Ala  
 169 35 40  
 172 <210> SEQ ID NO: 9  
 173 <211> LENGTH: 3534  
 174 <212> TYPE: DNA  
 175 <213> ORGANISM: artificial sequence  
 177 <220> FEATURE:  
 178 <223> OTHER INFORMATION: This is a plasmid pSPC5-12-HVGHRH utilized in the present  
 inventi  
 179 on.  
 181 <400> SEQUENCE: 9  
 182 gttgtaaaaac gacggccagt gaattgtaat acgactcact atagggcgaa ttggagctcc 60  
 184 accgcggttg cgcccgctcg ccctcggcac catcctcacg acacccaaat atggcgacgg 120  
 186 gtgaggaatg gtggggagtt atttttagag cggtagaggaa ggtgggcagg cagcaggtgt 180  
 188 tggcgctcta aaaataactc ccgggagtta ttttttagagc ggaggaatgg tggacacca 240  
 190 aatatggcga cggttcctca cccgtcgcca tatttggtg tccgccctcg gccggggccg 300  
 192 cattcctggg ggccggggcg tgctcccgcc cgcctcgata aaaggctccg gggccggcg 360  
 194 cggcccacga gctacccgga ggagcgggag gcgccaagct ctagaactag tggatcccaa 420  
 196 ggcccaactc cccgaaccac tcagggtcct gtggacagct cacctagctg ccatggtgct 480  
 198 ctgggtgttc ttctttgtga tcctcaccct cagcaacagc tccactgct cccacctcc 540  
 200 ccctttgacc ctccaggatgc ggcggcacgt agatgccatc ttcaccaaca gctaccgaa 600  
 202 ggtgctggcc cagctgtccg cccgcaagct gctccaggac atcctgaaca ggcagcagg 660  
 204 agagaggaac caagagcaag gagcataatg actgcaggaa ttcgatatca agcttatcgg 720  
 206 ggtggcatcc ctgtgacccc tcccagtgct ctctcctggc cctggaagtt gccactccag 780  
 208 tgcccaccag ccttgctcta ataaaattaa gttgcatcat tttgtctgac taggtgtcct 840  
 210 tctataatat tatgggggtg aggggggtg tatggagcaa ggggcaagtt ggaagacaa 900  
 212 cctgtagggc ctgcggggtc tattgggaac caagctggag tgcagtggca caatcttggc 960  
 214 tcaactgaat ctccgcctcc tgggttcaag cgattctcct gcctcagcct cccgagttgt 1020  
 216 tgggattcca ggcattgatg accaggctca gctaattttt gtttttttgg tagagacgg 1080  
 218 gtttcaccat attggccagg ctggtctcca actcctaadc tcagggtgat taccacctt 1140  
 220 ggccctccaa attgctggga ttacaggcgt gaaccactgc tcccttcctt gtccttctga 1200  
 222 ttttaaaata actataccag caggaggacg tccagacaca gcataggcta cctggccatg 1260  
 224 cccaaccggt gggacatttg agttgcttgc ttggcactgt cctctcatgc gttgggtcca 1320  
 226 ctccagttagat gcctgttgaa ttcgataccg tcgacctcga gggggggccc ggtaccagct 1380  
 228 tttgttcctt ttagtgaggg ttaatttcga gcttgcgta atcatggtca tagctgtttc 1440  
 230 ctgtgtgaaa ttgttatccg ctcaaatc caacacaat acgagccgga agcataaagt 1500  
 232 gtaaagcctg ggggtgcctaa tgagttagct aactcacatt aattgcgttg cgctcactgc 1560  
 234 ccgctttcca gtcgggaaac ctgctgtgcc agctgcatta atgaatcggc caacgcgcgg 1620  
 236 ggagaggcgg tttgcgtatt gggcgctctt ccgcttcctc gctcactgac tcgctgcgct 1680

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238 cggtcgttcg gctgcggcga gcggtatcag ctactcaaaa ggcggttaata cggttatcca 1740
240 cagaatcagg ggataacgca ggaaagaaca tgtgagcaaa aggccagcaa aaggccagga 1800
242 accgtaaaaa ggccgcgttg ctggcgtttt tccataggct ccgccccctt gacgagcatc 1860
244 acaaaaatcg acgctcaagt cagagggtgc gaaacccgac aggactataa agataccagg 1920
246 cgtttccccc tggaagctcc ctcggtgcgt ctctgtttcc gaccctgccg cttaccggat 1980
248 acctgtccgc ctttctccct tcgggaagcg tggcgctttc tcatagctca cgctgtagg 2040
250 atctcagttc ggtgtaggtc gttcgctcca agctgggctg tgtgcacgaa ccccccgttc 2100
252 agcccgaccg ctgcgcctta tccgtaact atcgctctga gtccaacccg gtaagacacg 2160
254 acttatcgcc actggcagca gccactggtt acaggattag cagagcgagg tatgtaggcg 2220
256 gtgctacaga gttcttgaag tgggtggccta actacggcta cactagaaga acagtatttg 2280
258 gtatctgcgc tctgctgaag ccagttacct tcggaaaaag agttggtagc tcttgatccg 2340
260 gcaaaaaaac caccgctggt agcgggtggt tttttgtttg caagcagcag attacgcgca 2400
262 gaaaaaaagg atctcaagaa gatcctttga tctttcttac ggggtctgac gctcagaaga 2460
264 actcgtaag aaggcgatag aaggcgatgc gctgcgaatc gggagcggcg ataccgtaaa 2520
266 gcacgaggaa gcggtcagcc cattcgccgc caagctcttc agcaatatca cgggtagcca 2580
268 acgctatgtc ctgatagcgg tccgccacac ccagccggcc acagtcgatg aatccagaaa 2640
270 agcggccatt ttccaccatg atattcgcca agcaggcatc gccatgggtc acgacgagat 2700
272 cctcgccgctc gggcatgcgc gccttgagcc tggcgaaacag ttcggctggc gcgagcccct 2760
274 gatgctcttc gtccagatca tctgatcga caagaccggc ttccatccga gtacgtgctc 2820
276 gctcgatgag atgtttcgct tgggtggtcga atgggcagggt agccgatca agcgtatgca 2880
278 gccgccgat tgcatacgcc atgatggata ctttctcgcc aggagcaagg tgagatgaca 2940
280 ggagatcctg ccccgccact tcgcccaata gcagccagtc ccttcccgtc tcagtacaa 3000
282 cgtcgagcac agctgcgcaa ggaacgcccg tcgtggccag ccacgatagc cgcgctgcct 3060
284 cgtcctgcag ttcatcagc gcaccggaca ggtcggctct gacaaaaaga accgggcgcc 3120
286 cctgcgctga cagccggaac acggcgccat cagagcagcc gattgtctgt tgtgccag 3180
288 catagccgaa tagcctctcc acccaagcgg ccggagaacc tgcgtgcaat ccattctgtt 3240
290 caatcatgag aaacgatcct catcctgtct cttgatcaga tcttgatccc ctgcgccatc 3300
292 agatccttgg cggcaagaaa gccatccagt ttactttgca gggcttccca acctaccag 3360
294 agggcgcccc agctggcaat tccggttcgc ttgctgtcca taaaaccgcc cagtctagca 3420
296 actggtggga agggcgatcg gtgcgggcct cttegtatt acgccagctg gcgaaagggg 3480
298 gatgtgctgc aaggcgatta agttgggtaa cgccagggtt ttccagtcga cgac 3534

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301 &lt;210&gt; SEQ ID NO: 10

302 &lt;211&gt; LENGTH: 2192

303 &lt;212&gt; TYPE: DNA

304 &lt;213&gt; ORGANISM: artificial sequence

306 &lt;220&gt; FEATURE:

307 &lt;223&gt; OTHER INFORMATION: This is a plasmid vector comprising a pVC0289 backbone

309 &lt;400&gt; SEQUENCE: 10

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310 cgataccgtc gacctcgagg gggggcccg taccagcttt tgttcccttt agtgagggtt 60
312 aatttcgagc ttggcgtaat catggtcata gctgtttcct gtgtgaaatt gttatccgct 120
314 cacaattcca cacaacatac gagccggaag cataaagtgt aaagcctggg gtgcctaattg 180
316 agtgagctaa ctacatttaa ttgcgttgcy ctactgccc gctttccagt cgggaaacct 240
318 gtcggtccag ctgcattaat gaatcgccca acgcgcgggg agaggcggtt tgcgtattgg 300
320 gcgctcttcc gcttctcgc tcaactgact gctgcgctcg gtcgttcggc tgcggcgagc 360
322 ggtatcagct cactcaagg cggtaatacy gttatccaca gaatcagggg ataacgcagg 420
324 aaagaacatg tgagcaaaa gccagcaaaa ggccaggaa cgtaaaaagg ccgcgttgct 480
326 ggcgtttttc cataggctcc gccccctga cgagcatcac aaaaatcgac gctcaagtca 540
328 gaggtggcga aaccgcagag gactataaag ataccaggcg tttccccctg gaagctccct 600
330 cgtgcgctct cctgttccga ccctgccgct taccggatac ctgtccgcct ttctcccttc 660

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332 gggaaagcgtg ggcgtttctc atagctcacg ctgtagggtat ctcagttcgg tgtagggtcgt 720
334 tcgctccaag ctgggctgtg tgcacgaacc ccccgttcag cccgaccgct ggcgcttctc 780
336 cggttaactat cgtcttgagt ccaacccggt aagacacgac ttatcgccac tggcagcagc 840
338 cactggtaac aggattagca gagcgaggta tgtaggcggt gctacagagt tcttgaagtg 900
340 gtggcctaac tacggctaca ctagaagaac agtatttggt atctgcgctc tgctgaagcc 960
342 agttaccttc ggaaaaagag ttggtagctc ttgatccggc aaacaaacca ccgctggtag 1020
344 cggtggtttt tttgtttgca agcagcagat tacgcgcaga aaaaaaggat ctcaagaaga 1080
346 tcctttgata ttttctacgg ggtctgacgc tcagaagaac tcgtcaagaa ggcgatagaa 1140
348 ggcgatgcgc tgcgaatcgg gagcggcgat accgtaaagc acgagggaagc ggtcagccca 1200
350 ttcgcccga agctcttcag caatatcacg ggtagccaac gctatgtcct gatagcggtc 1260
352 cgccacaccc agccggccac agtcgatgaa tccagaaaag cggccatttt ccacatgat 1320
354 attcggcaag caggcatcgc catgggtcac gacgagatcc tcgccgtcgg gcctgcgcgc 1380
356 cttgagcctg gcgaacagtt cggctggcgc gagccctga tgcctctcgt ccagatcatc 1440
358 ctgatcgaca agaccggctt ccatccgagt acgtgctcgc tcgatgcgat gtttcgcttg 1500
360 gtggtcgaat gggcaggtag ccggatcaag cgtatgcagc cgccgcatg catcagccat 1560
362 gatggatact ttctcggcag gagcaagggt agatgacagg agatcctgcc ccggcacttc 1620
364 gcccaatagc agccagtccc ttcccgttc agtgacaacg tcgagcacag ctgcgcaagg 1680
366 aacgcccgtc gtggccagcc acgatagccg cgctgcctcg tcctgcagtt cattcagggc 1740
368 accggacagg tcggtcttga caaaaagaac cgggcgcccc tcgctgaca gccggaacac 1800
370 ggcggcatca gagcagccga ttgtctgttg tgcccagtc tagccgaata gcctctccac 1860
372 ccaagcggcc ggagaacctg cgtgcaatcc atcttggtca atcatgcgaa acgatcctca 1920
374 tcctgtctct tgatcagatc ttgatccctc gcgccatcag atccttggcg gcaagaaagc 1980
376 catccagttt actttgcagg gcttcccaac cttaccagag ggcgccccag ctggcaattc 2040
378 cggttcgctt gctgtccata aaaccgcccc gtctagcaac tgttggaag ggcgatcggg 2100
380 gcgggcctct tcgtattac gccagctggc gaaaggggga tgtgctgcaa ggcgattaag 2160
382 ttgggtaacg ccagggtttt ccagtcacg ac 2192

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385 &lt;210&gt; SEQ ID NO: 11

386 &lt;211&gt; LENGTH: 308

387 &lt;212&gt; TYPE: DNA

388 &lt;213&gt; ORGANISM: artificial sequence

390 &lt;220&gt; FEATURE:

391 &lt;223&gt; OTHER INFORMATION: This is a nucleic acid sequence is an synthetic analog of

"growth

392 hormone releasing hormone" ("GHRH").

394 &lt;400&gt; SEQUENCE: 11

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395 ggatoccaaag gcccaactcc ccgaaccact cagggtcctg tggacagctc acctagctgc 60
397 catggtgctc tgggtgttct tctttgtgat cctcaccctc agcaacagct cccactgctc 120
399 cccacctccc cctttgaccc tcaggatgcy gcggcacgta gatgccatct tcaccaacag 180
401 ctaccggaag gtgctggccc agctgtccgc ccgcaagctg ctccaggaca tcctgaacag 240
403 gcagcaggga gagaggaacc aagagcaagg agcataatga ctgcaggaat tcgatatcaa 300
405 gcttatcg 308

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